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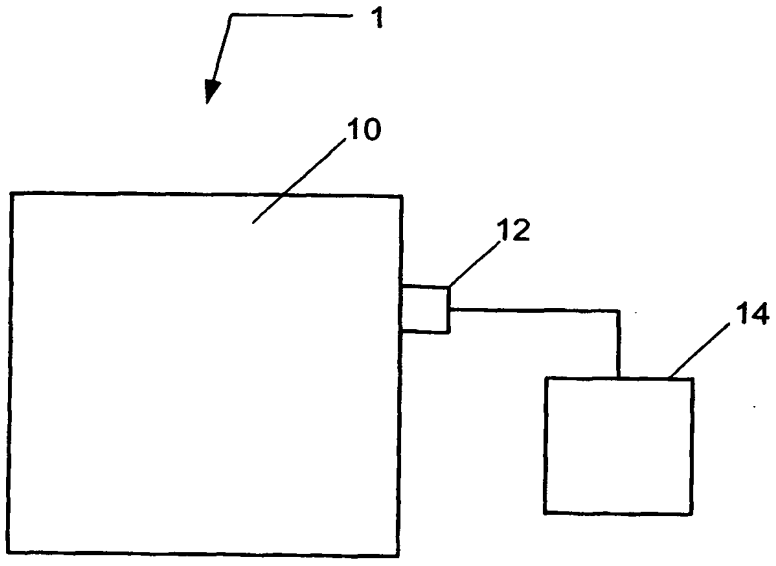
(54) Title: METHOD AND APPARATUS FOR DETERMINING AN ETCH PROPERTY USING AN ENDPOINT SIGNAL



(57) Abstract: The present invention presents a plasma processing system for etching a layer on a substrate comprising a process chamber, a diagnostic system coupled to the process chamber and configured to measure at least one endpoint signal, and a controller coupled to the diagnostic system and configured to determine in-situ at least one of an etch rate and an etch rate uniformity of the etching from the endpoint signal. Furthermore, an in-situ method of determining an etch property for etching a layer on a substrate in a plasma processing system is presented comprising the steps: providing a thickness of the layer; etching the layer on the substrate; measuring at least one endpoint signal using a diagnostic system coupled to the plasma processing system, wherein the endpoint signal comprises an endpoint transition; and determining the etch rate from a ratio of the thickness to a difference between a time during the endpoint transition and a starting time of the etching.

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